

ABSTRACT OF THE DISCLOSURE

Methods and systems for carrying call control information after a call handover from an Internet Protocol (IP) packet switched network to a circuit switched cellular network and vice versa. The IP packet switched network includes a processing server capable of processing IP-based protocol messages. The circuit switched cellular network includes a mobile switching center. A gateway is operatively connected as a bridge between the IP packet switched network and the circuit switched cellular network. The gateway is capable of encapsulating an IP-based protocol message into a payload of a second message, and extracting an IP-based protocol message from a payload of another message. One or more user devices are capable of transmitting and receiving to/from the IP packet switched network and the circuit switched cellular network. The user devices are capable of encapsulating an IP-based protocol message into a payload of a second message, and extracting an IP-based protocol message from a payload of another message. The IP-based protocol message contains call control information that is encapsulated, transparently transferred through the switched cellular network, and extracted. The call control information is transferred between the IP packet switched network and the user device. The circuit switched cellular network may be part of a circuit switched cellular system that also includes an overlayed packet switched network. The call control information may be carried in packets between the IP packet switched network and the user device transparently through the overlayed packet switched network.